

Amendments to the Specification

Please replace the paragraph beginning at page 17, line 22 with the following:

FIGs. 4A-4C illustrate another embodiment of an assembly of an electromechanical device in combination with a self-sealing valve of the invention. This embodiment comprises a self-sealing valve assembly 80, such as, as has been described infra. The self-sealing valve assembly comprises a flexible diaphragm 40 and a diaphragm support 42 that positions the diaphragm within an opening through which fluid can be supplied to or exhausted from an inside 16 of fluid impermeable bladder 14. The self-sealing valve assembly also includes a projecting arm 82 from the diaphragm support 42, that is configured to interact with a portion 86 of an actuator arm 84. The assembly also comprises a cover 81 having a surface 83 that also interacts with the portion 86 of the actuator arm 84. The actuator arm 84 and portion 86 are configured to bias the cover 81 upward so as to open the cover, and are also configured to bias the projecting arm ~~80~~ 82 so as to push the diaphragm support 42 and diaphragm 40 at least partially away from valve seat 28, as illustrated in FIG. 4B, when a deflate lever 88 is depressed, for example, by a finger 90 of a user. The assembly also comprises an inflate lever 92, which can also be depressed by the finger 90 of the user so as to move the actuator arm into contact with the surface 83 of the cover 81 so as to open the cover, as illustrated in FIG. 4C. While the lever 92 is illustrated as being moved by a finger, an electromechanical device may be used to move the actuator arm. The inflate lever is also configured, when depressed, to contact and bias a power switch 94 to energize a fluid moving device to supply fluid from the fluid moving device to the self-sealing valve 80, as is also illustrated in FIG. 4C.

Please replace the paragraph beginning at page 18, line 31 with the following:

It should be appreciated that although FIGs. 4A-4C illustrate an embodiment of a actuator device and valve assembly comprising a single self-sealing valve, there may be provided a plurality of such self-sealing valves, for example along a row within a common housing ~~96~~ 98, all coupled to the fluid moving device, and all provided with a respective deflate lever 88, inflate lever 92, and spring assembly 96 comprising actuator arm 84, so as to be able to respectively bias open and close each self-sealing valve assembly for the purpose of inflating and deflating a

plurality of fluid impermeable bladders within an inflatable device. In other words, the assembly of FIGs. 4A-4C can be used to fill, deflate and control a fluid level within an inflatable device that comprises a plurality of fluid impermeable bladders, each having an assembly as illustrated in FIG.s 4A-4C, so as to be able to control the fluid pressure within each fluid impermeable bladder independently, and with the added advantage of only having to use a single fluid moving device. It is to be appreciated that the fluid moving device may be located remotely from the self-sealing valve and the electromechanical assembly.

Please replace the paragraph beginning at page 19, line 23 with the following:

According to the present aspect of the invention, at least valve 520 is coupled to the inflatable bladder 505 and is supported by the bladder 500 505. Valve 520 may be a self sealing valve as described above with reference to FIGs. 4A-4C and configured in a similar manner. Valve 520 is arranged such that an actuator arm 532 of electromechanical device 530 can bias the cover 522 upward so as to open the cover, and push the diaphragm 540 542 at least partially away from valve seat 528 so as to allow inflation of bladder 505 if pressurized air is provided from pump 550, and deflation of the bladder in the absence of pressurized air. For example, the air released during deflation may exit through the pump, although pump may or may not actively draw the air out.

Please replace the paragraph beginning at page 20, line 31 with the following:

Barrier 540 may be a molded plastic part suitably coupled to inflatable device 500 to limit air flow to the ambient surroundings as described above. In some embodiments, compartment 545 has a profile that is flush with or within the profile of bladders (illustrated by dashed line 550 552). In such embodiments, it is possible the fluid compartment containing the valve and perhaps electromechanical device fit within a bed frame with which the mattress is used. Compartment 545 may have any suitable shape.

Please replace the paragraph beginning at page 21, line 19 with the following:

FIGs. 5B and 5C are schematic illustrations of an exemplary embodiment of a mattress and fluid controller as described above with reference to FIG. 5A. In the illustrated embodiment,

mattress 500 comprises additional materials that at least partially surround the inflatable bladder 505 (collectively referred to as supplemental material). Supplemental material may be materials common to everyday mattresses, such as a stitched or quilted surface layer 506 of a natural or synthetic fabric. The mattress may also include at least one innerspring, as well as any or all of foam, cotton, down, or other natural or synthetic fibers for cushioning, support and comfort, which may be located at or near the mattress top surface or side walls. The mattress may also include a top central surface, located above the inflatable bladder 505, for sleeping and/or reclining. There may also be an intermediary layer 504 of material above the bladder and beneath the surface layer of the mattress. The intermediary layer may comprise foam, cotton, down or other natural or synthetic fibers, and the mattress may be so constructed to allow interchangeability of the intermediary layer to provide users with additional sleep surface options. Accordingly, a user of the mattress can select the feel of the mattress by selecting the intermediate layer. Mattress 500 usually additionally includes a bottom surface and side walls that support the at least one inflatable bladder 500 505, the fluid controller 550-510 and additional materials.

Please replace the paragraph beginning at page 22, line 4 with the following:

According to the illustrated embodiment of the invention, mattress 500 comprises a fluid controller 550 510 coupled to an inflatable bladder 550 505, wherein the fluid controller 550 510 is at least partially supported by an element of the mattress structure. For example, referring to Fig. 5B 5C, the mattress includes a perimeter structure 508 surrounding the at least one inflatable bladder, and the fluid controller is located within the perimeter structure, as shown. Optionally, fluid controller 550 510 may be integrated into the mattress structure within a foam 508 or other mattress filling material, such that it is not a free-standing, separate component.

Please replace the paragraph beginning at page 22, line 11 with the following:

As shown in Figs. 5B and 5C, the mattress structure may further include a frame 510 570 that supports the mattress, for example, supporting the mattress above the floor. In one embodiment (not illustrated), the frame may also support one or more components of fluid

controller ~~550~~ 510. For example, the one or more components of the fluid controller may be embedded within or attached to the frame.

Please replace the paragraph beginning at page 22, line 22 with the following:

FIG. 6A is a schematic illustration of a dual mattress embodiment 600 of aspects of the present invention in which a first inflatable bladder 605A and a second inflatable bladder 605B are fluidly coupled to a common fluid controller. In the illustrated embodiment, portions of the fluid controller are maintained with a V-shaped compartment 645. FIG. 6B is perspective view of dual mattress 600 having a V-shaped compartment 645 and a pump 650.

Please replace the paragraph beginning at page 22, line 27 with the following:

FIG. 6C is a schematic illustration of the details of an exemplary fluid controller for use with a dual mattress embodiment of the invention. Valves 620a and 620b (e.g., self sealing valves) are connected to the right side mattress ~~605a~~ 605b and the left side mattress ~~605b~~ 605a, respectively. Barrier 640 is substantially within a profile 606 of the mattress. In the illustrated embodiment, pump 650 is illustrated as connected to the compartment. However, the pump may be coupled to the compartment through a hose as described above.

Please replace the paragraph beginning at page 27, line 5 with the following:

FIGs. 9A and 9B are schematic illustrations of another aspect of the present invention which takes advantage of the typically light weight of inflatable devices to increase their functionality. In one example of this embodiment, the present invention is directed to an article of furniture including a user support 920 having an inflatable bladder 912 and a base 924 having a storage compartment 922 and positioned beneath user support ~~820~~ 920. In this embodiment, user support 920 is movable to allow access to storage compartment 922. Accordingly, it can be seen how this embodiment of the present invention takes advantage of the lightweight nature of gas-filled inflatable devices. Because a gas-filled inflatable device may be relatively lightweight, it may be easily moved to expose storage space beneath the user support.

Please replace the paragraph beginning at page 33, line 3 with the following:

Another aspect of the invention is directed to the ability of an inflatable device to perform different functions based upon differing levels of inflation. Such an inflatable device may provide different positions to a portion of a body, or may make the device useful with differing portions of the body. For example, the inflatable device may be any suitable device as described above with reference to FIG. 10A – 15. For example, as illustrated in FIGS. 16-17, an inflatable device 1610, configured as a pillow, may serve as a neck support at a first level of inflation and as a lumbar support at a second level of inflation and a first configuration of a configuring member (e.g., covering layer 1082, outer membrane 1132, fasteners 1136), and as a lumbar support at a second level of inflation. As a pillow for use as a lumbar support is typically smaller than a pillow for use as a neck support. Accordingly, a pillow at a level of inflation for use as a neck support may be partially deflated by releasing fluid to bring it to a level of inflation suitable for use as a lumbar support. Similarly, a pillow at a level of inflation for use as a lumbar support may be further inflated by adding fluid to bring it to a level of inflation suitable for use as a neck support.

Please replace the paragraph beginning at page 33, line 16 with the following:

Another example of an inflatable device able to perform different functions based upon differing levels of inflation is illustrated in FIGS. 19-20. In this example exemplary embodiment, inflatable device 1610 is configured as a pillow that may serve as a backrest at a first level of inflation (FIG. 20), a leg support at a second level of inflation (FIG. 19), and a head and/or neck support at a third level of inflation (FIG. 18). For example, the pillow may be used as a backrest in a fully inflated condition, a leg support in a partially deflated condition, and a head support in a further deflated condition. In some cases, to achieve a desired configuration, a level of inflation may be attained and the device may be folded by folding or otherwise altering the shape of the inflatable device. As with other embodiments of the present invention, the level of inflation may be adjusted by adding or releasing fluid from an inflatable bladder comprising the inflatable device. This and the example exemplary embodiment of FIGS. 16-18 are only two examples of the many different ways in which adjusting the level of fluid in an inflatable device according to the present invention may allow the device to perform multiple functions.

Amendments to the Drawing Figures

Applicant encloses Figs. 4A, 4B, 4C, 5A, 5B, 5C and 7A marked up in red. The figures have been amended to correct errors identified in preparation of the formal drawings and to bring them into conformity with the specification. Applicant respectfully requests review and approval of the proposed drawing corrections.

Attachment: Replacement Sheets
Annotated Sheets Showing Changes